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Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet **1** of **3**

### Complete If Known

Application Number	10/782,939
Filing Date	February 23, 2004
First Named Inventor	Erik J. Shahoian
Art Unit	2674
Examiner Name	Unassigned
Attorney Docket Number	IMMR046/02US

U.S. PATENT DOCUMENTS					
Examiner	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code <sup>2</sup> (# known)		
		6,422,941		7/23/2002	Thomer et al.
		6,219,034		04/17/2001	Elbing et al.
		6,160,489		12/12/2000	Perry et al.
		6,111,577		8/29/2000	Zilles et al.
		5,766,016		6/16/1998	Sinclair
		5,690,582		11/25/1997	Ulrich et al.
		5,575,761		11/19/1996	Hailanpour
		5,437,607		8/1/1995	Taylor
		5,436,622		7/25/1995	Gutman et al.
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		5,186,895		2/16/1993	Mangseth et al.
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		5,165,897		11/24/1992	Johnson
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		4,885,585		12/8/1989	Embach
		4,484,191		11/20/1984	Vavra
		4,464,117		8/7/1984	Foerst
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		4,127,752		11/28/1978	Lowthorp
		2,972,140		2/14/1961	Hirsch

had been considered.

Examiner  
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<sup>2</sup> Applicant's unique citation designation number (optional). <sup>3</sup> Kind Codes of U.S. Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>4</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>5</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>6</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>7</sup> Applicant is to place a check mark here if English language Translation is attached.

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Sheet **2** of **3**

### Complete If Known

Application Number	10/782,939
Filing Date	February 23, 2004
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Art Unit	2674
Examiner Name	Unassigned
Attorney Docket Number	IMMR046/02US

### OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
RL		PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," <i>Master of Science Thesis</i> , MIT, Aug. 1990, archived Nov. 8, 1990.
		CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," <i>Bachelor of Science Thesis</i> , MIT, May 1983, archived June 23, 1983.
		WIKER, "Teletouch Display Development: Phase 1 Report," <i>Technical Report 1230</i> , Naval Ocean Systems Center, San Diego, July 1988.
		BLISS, "Optical-to-Tactile Image Conversion for the Blind," <i>IEEE Transactions on Man-Machine Systems</i> , Vol. MMS-11, No. 1, March 1970.
		JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator," <i>Armstrong Aerospace Medical Research Laboratory</i> , AAMRL-TR-90-039, August, 1990.
		KONTARINIS et al., "Tactile Display of Vibratory Information In Teleoperation and Virtual Environments," <i>PRESENCE</i> , 4(4):387-402, Harvard Univ., 1995.
		AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.
		EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," <i>DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1</i> , ASME 1994.
		GOBEL et al., "Tactile Feedback Applied to Computer Mice," <i>International Journal of Human-Computer Interaction</i> , Vol. 7, No. 1, pp. 1-24, 1995.
		PIMENTEL et al., "Virtual Reality: through the new looking glass," 2 <sup>nd</sup> Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994.
		"Cyberman Technical Specification," <i>Logitech Cyberman SWIFT Supplement to Logitech Mouse Technical Reference and Programming Guide</i> , 4/5/1994.
		OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," <i>Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95</i> , Seoul, Korea, 21-24 August 1995.
		KACZMAREK et al., "Tactile Displays," <i>Virtual Environment Technologies</i> , Chap. 9, pp. 349-414.
		LAKE, "Cyberman from Logitech," at <a href="http://www.libllo.org/GameBytes/Issue21/reviews/cyberman.html">http://www.libllo.org/GameBytes/Issue21/reviews/cyberman.html</a> , 1994.
		YAMAKITA et al., "Tele-Virtual Reality of Dynamic Mechanical Model," <i>Proceedings of the 1992 IEEE/RSJ International Conference on Intelligent Robots and Systems</i> , Raleigh, NC, July 7-10, 1992

Examiner Signature	/Regina Liang/	Date Considered	12/06/2006
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		Filing Date	February 23, 2004
		First Named Inventor	Erik J. Shahoian
		Art Unit	2674
		Examiner Name	Unassigned
		Attorney Docket Number	IMMR046/02US
Sheet	3	of	3

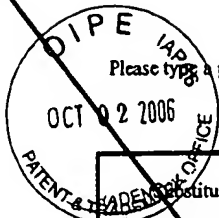
OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
RL		NOLL, "Man-Machine Tactile," <i>SID Journal</i> , July/August 1972 Issue.	
RL		ROSENBERG, "Virtual Fixtures: Perceptual Overlays Enhance Operator Performance In Telepresence Tasks," <i>Ph.D. Dissertation</i> , Stanford University, June 1994.	

Examiner Signature	/Regina Liang/	Date Considered	12/06/2006
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number			
		Filing Date	Herewith		
		First Named Inventor	Erik SHAHOIAN		
		Group Art Unit			
Examiner Name					
Sheet	1	of	9	Attorney Docket Number	IMMR-046/02US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code <sup>2</sup> (if known)		
		6,243,078		Rosenberg	06/2001
		6,219,032		Rosenberg et al.	04/17/2001
		6,166,723		Schena et al.	12/26/2000
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		6,100,874		Schena et al.	08/08/2000
		6,088,019		Rosenberg	06/11/2000
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		5,771,037		Jackson	06/23/1998
		5,769,640		Jacobus et al.	06/23/1998

<sup>1</sup> Unique citation designation number.

<sup>2</sup> See attached Kinds of U.S. Patent Documents.

Examiner Signature	had been considered	Date Considered	
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				Filing Date	Herewith
				First Named Inventor	Erik SHAHOIAN
				Group Art Unit	
				Examiner Name	
Sheet	2	of	9	Attorney Docket Number	IMMR-046/02US

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Sheet	3	of	9	Application Number	
				Filing Date	Herewith
				First Named Inventor	Erik SHAHOIAN
				Group Art Unit	
				Examiner Name	
				Attorney Docket Number	IMMR-046/02US

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			First Named Inventor	Erik SHAHOLIAN	
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	4,794,392	Selinko	12/27/1988
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Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T <sup>4</sup>
		Office <sup>1</sup>	Number <sup>2</sup>	Kind Code <sup>3</sup> (if known)			
RL		EP	0 626 634	A2	Yoshiaki et al.	11/1994	
		WO	95/20788			08/03/1995	
		WO	97/20305			06/05/1997	
		WO	97/31333			08/28/1997	
		EP	0265011	A1		04/27/1988	
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		WO	92/00559			01/09/1992	
		WO	97/20305			06/05/1997	
		WO	00/21071			04/13/2000	
		WO	00/03319			01/20/2000	
		WO	96/28777			09/19/1996	
		WO	95/32459			11/30/1995	

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